BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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REPLY COMMENTS OF SOLARCITY CORPORATION ON THE PROPOSED DECISION REVISING THE SELF-GENERATION INCENTIVE PROGRAM

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Pursuant to Rule 14.3 of the Commission's Rules of Practice and Procedure, SolarCity Corporation (SolarCity) respectfully submits this reply to comments submitted on June 6, 2016 on Commission President Michael Picker's May 16, 2016 Proposed Decision (PD).

I. COMMENTS

a. Projects with Greater Environmental Benefits Should Be Prioritized

SolarCity agrees with Sierra Club that, "given the robust demand for SGIP funding, project scoring criteria should supersede a lottery system to direct subsidies to projects with greater environmental benefits and ratepayer value."[1] Likewise, PG&E states that it intends to "develop criteria to prioritize projects that…fully integrate storage paired with a renewable generator."[2] Based on this rationale, we believe it is critical the final decision clarify that renewable energy-paired storage systems be clearly prioritized within the Self-Generation Incentive Program (SGIP) due to their superior greenhouse gas (GHG) reduction and increased societal benefits. While the PD does indicate that projects with additional GHG benefits will be given priority in the lottery, the SGIP would greatly benefit from language in the final decision around how the PAs should implement measures to support the increased adoption of energy storage charged by on-site renewable energy. Without clear definition, there will likely be significant discussion and opposing views at a future workshop.

To manage this, we suggest the Commission establish a structure whereby in the event of a lottery within any given step, all on-site renewable energy charged storage systems would be issued a conditional reservation prior to grid-charged storage systems, ensuring that projects that reduce higher levels of GHGs be granted priority in the program to actually realize these increased GHG benefits.

[1] Sierra Club at p. 4.
[2] PG&E at p. 10.

One important aspect of this design is that any system classified as "renewable-paired storage" should be required to be installed with a new on-site renewable energy system and prove that the storage system is charged primarily from renewable energy. SolarCity would propose a threshold of 90% charged from renewable energy in order to qualify for this category, and would suggest the PAs require proof of the ability to meter, record, and report this data for program verification purposes.

b. SolarCity Opposes the Flawed Argument that Renewable-Charged Storage Should Receive a Lower Incentive

SolarCity disagrees with Stem and Green Charge Networks (GCN), who propose that energy storage projects charged by on-site renewable generation should receive a lower incentive than projects charged from the grid.[3] Not only is this a biased argument, as these two companies develop projects that do not charge from on-site renewable energy, but the fundamental calculations used to develop this argument are flawed and should be rejected. GCN seems to suggest that for each $1.00 of Federal Investment Tax Credit (ITC) eligible build cost, there is a $1.50 cash benefit that accrues to the developer. This is an erroneous claim as the monetization of long-term tax credits for up-front cash necessarily requires a discount be applied when placing the tax credits with a tax equity investor. Simply put, $1.00 of tax credit results in less than $1.00 of cash received up front, and when adjusting for this discount, the GCN argument of over-subsidization no longer has merit.

SolarCity agrees that over-subsidization of projects should be avoided and additional language, similar to that in the California Solar Initiative (CSI) program handbook, should be added specifying that developers are required to provide documentation that the customer is not receiving incentives that over-subsidize the project. However, ensuring that all projects are not overly subsidized is more prudent than calling out one business model (as indicated by the language in CSI). Developers can lower costs through a variety of means such as federal and state grants, tax credits, demand response, rate arbitrage, research and development funding, demand charge reduction, and wholesale market participation. Moreover, advanced energy storage (AES) systems taking the ITC are required to charge with on-site renewable power, potentially limiting their ability to capture revenue streams available to projects not taking the ITC. The ITC is one mechanism among many that developers can use to reduce system costs, yet some parties have elected to focus solely on the value of ITC.

As stated by the Rocky Mountain Institute, a key benefit of energy storage is its ability to

[3] Stem at p. 11; Green Charge Networks at pp. 3-4.

provide multiple services to the grid.[4] To punish one business model will likely only serve to discourage developers from applying for the ITC. The Commission should be cautious around reducing incentive for one project type over another as this policy may ultimately result in projects no longer applying for ITC, especially if there is no clear prioritization of renewably charged systems in the program. In addition, enrollment in the ITC supports GHG reduction by requiring the energy storage system to be charged a *minimum* of 75% from the renewable device. Participation in the ITC automatically ensures AES systems support renewable integration and help California reach its renewable portfolio standard (RPS) goals. A core program goal of SGIP is to ensure reduced GHG emissions; punishing customers who participate in a program that ensures GHG reduction is not appropriate and is unnecessary. As such, Stem and GCN's recommendation should be rejected.

c. <u>It is Reasonable that a Minimum of 75% of the Budget Be Allocated to Energy Storage</u>

The Commission should reject the argument by some parties that AES should receive less than 75% of the budget.[5] Based on the robust market demand by the growing and nascent industry, the 75% incentive allocation is appropriate and necessary. If anything, 75% of the budget is conservative as storage projects accounted for 81% of overall active projects in 2015.[6] As the California Energy Storage Alliance (CESA) points out in comments, the historical data shows energy storage would account for over 80% of SGIP funds in 2015 with natural gas fuel cells removed.[7] Energy storage has decreased in cost significantly over the past few years, and the technology has the potential to provide tremendous value to customers, the grid, and rate payers more broadly. SolarCity agrees with Advanced Microgrid Solutions (AMS) that energy storage will be critical to assist with the "emerging challenges on the grid, such as large levels of renewables at certain times of the day or year, energy storage is key. Energy storage can absorb lower cost energy while also providing services to support reliability, etc."[8]

d. <u>The Commission Should Reject Any Claim by Bloom that Energy Storage Does Not Reduce GHG Emissions</u>

Bloom continues to go to great lengths to attempt to show that storage does not reduce GHG emissions. In D.15-11-027, the Commission implemented § 379.6(b)(2) by setting a new GHG emissions factor that determines eligibility to participate in SGIP. AES meets all of these requirements as previously decided by the Commission. In fact, the storage community vigorously argued that the

[4] Rocky Mountain Institute, The Economics of Battery Energy Storage (Oct. 2015), at pp. 7-9.
[5] Doosan at pp. 13-14; National Fuel Cell Research Center at pp. 6-8; California Clean DG Coalition at pp. 6-9; San Diego Gas & Electric Company (SDG&E) at pp. 2-3; Bloom at pp. 6-8; FuelCell Energy Inc. at pp. 2-3.
[6] SGIP public database as of May 30, 2016.
[7] CESA at pp. 4-5.
[8] AMS at p. 8.

GHG emissions factor should be considerably more stringent for all technologies to ensure emissions reduction in the program, while Bloom argued for a considerably less stringent threshold.[9] Most commercial storage customers are already on time-of-use (TOU) rates and face demand charges. AES will shift load from on-peak to off-peak times in precisely the way the California Independent System Operator (CAISO) has indicated is needed. In addition to not being cost effective and emitting high amounts of GHGs, electric-only natural gas fuel cells provide the wrong type of capacity to the system, which actually exacerbates the challenge of renewables integration. There is no shortage of inflexible baseload power on the CAISO grid. The future demands of the grid will require storage and flexible generation that can shift demand out of on-peak periods and provide ancillary grid services.

e. <u>The Removal of the Minimum Customer Investment Should Be Upheld and Instead the Commission Should Adopt Measures to Decrease Project Costs</u>

SolarCity strongly supports removing the minimum customer investment provision, which not only removes any developer's incentive to decrease project costs, but appears to create perverse incentives for developers to over-state their costs to the degree this would allow a developer to claim more of the incentive. SolarCity commented on this extensively at the March 21, 2016 all party meeting as developers were applying for the same projects costs for 18 kW to 2 MW systems. However, SolarCity understands parties' concerns of an opening "stampede." While SolarCity proposed, and continues to support, SGIP open with a price discovery mechanism, if the Commission decides to open the program with an administratively-determined incentive amount as the PD proposes, then SolarCity agrees with the Center for Sustainable Energy (CSE) that starting incentive for the AES should be reduced by $.10/Wh for both large and small scale AES. As CSE notes, "on February 23, 2016, more than 102 MW…of AES applications were submitted. Using the Commission's proposed incentive rates and step-down structure, this volume of AES applications would completely fill the first three of five incentive steps and reserve more than half of the total large AES incentives in a single day."[10] This scenario must be avoided. As such, incentives should open at a slightly lower level as proposed by CSE.

In addition, SolarCity strongly agrees with many parties that longer-duration AES projects should have a decrease in incentives.[11] Also, a cap on the amount of duration for which AES projects may claim an incentive (1MW or 2MWh) should be implemented as recommended by parties.[12] This is necessary so the PAs' program funds are not fully allocated by a handful of projects.

[9] *See* Bloom, Opening Comments (Jul. 30, 2015).
[10] CSE at p. 2.
[11] CESA at pp. 7-9; CSE at pp. 5-6; Tesla at pp. 5-8.
[12] CESA at pp. 8-9; Tesla at p. 3-4.

In addition, SolarCity agrees with Bosch that the residential category should only be allocated 10% of program funding. Of the 2016 applications, the residential category only accounted for $7M worth in applications out of nearly $326M received.[13] Using some assumptions, the residential carve out of 15% is over $60M, which seems high based on program participation by the residential sector.

f. SolarCity Strongly Supports a Lower Developer Cap & Opposes a Manufacturing Cap

SolarCity agrees with parties[14] that support the removal of the manufacturer cap in favor of a developer cap. This change would remove uncertainty for developers as well as customers, create a more equitable distribution of SGIP funds across project developers (who are applying for and receiving the incentives), allow for customer choice, and prevent gaming. Parties including ratepayer advocates, program administrators, and industry support the PD's switch from a manufacturer cap to a developer cap. In addition, many parties supported lowering the cap from the 40% level.[15]

g. Projects Should Only Be Allowed to Apply for up to 20% of Funding for Each Step

SolarCity agrees with CSE that developers should only be allowed to *apply* for up to 20% of the developer cap in any given step. SolarCity commented on this for a lottery in opening comments, but in order to prevent gaming, "it would be unfair to award a project associated with a particular developer based on the date it receives its reservation rather than its position in the queue. Enforcing the developer cap during the application submission stage will simplify administration."[16]

h. Excess Administrative Funding Should Be Used to Deploy Projects

California Solar Energy Industries Association (CALSEIA) and CESA state that Pacific Gas and Electric Company (PG&E) and Southern California Edison Company (SCE) have excess administrative rollover funds that should be put in the program to deploy projects. Due to the limited funding environment in SGIP, SolarCity agrees that this is prudent and appropriate.[17]

i. Providing Accurate Costs by Participants is Important and should be Agnostic

Bosch recommends that "eligibility for project costs should be AC/DC agnostic."[18] SolarCity agrees with Bosch that eligible costs should be reported accurately and consistently and whether the eligible generator or storage system is alternating or direct should make no difference. Likewise, the Commission should consider evaluating additional protocols for DC performance metering.

[13] SGIP public database as of May 30, 2016.
[14] *See, e.g.*, CESA at pp. 9-10; Tesla at p. 2; CSE at p. 9; AMS at pp. 10-11; Bosch at p. 9.
[15] *See, e.g.*, PG&E at p. 7; Bosch at p. 9.
[16] CSE at p. 9.
[17] CALSEIA at p. 6-7; CESA at p. 12.
[18] Bosch at p 3.

II. CONCLUSION

SolarCity applauds the Commission for a strong PD that addresses many challenges of the program.

Respectfully submitted at Oakland, California,

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